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03 SEP 2004



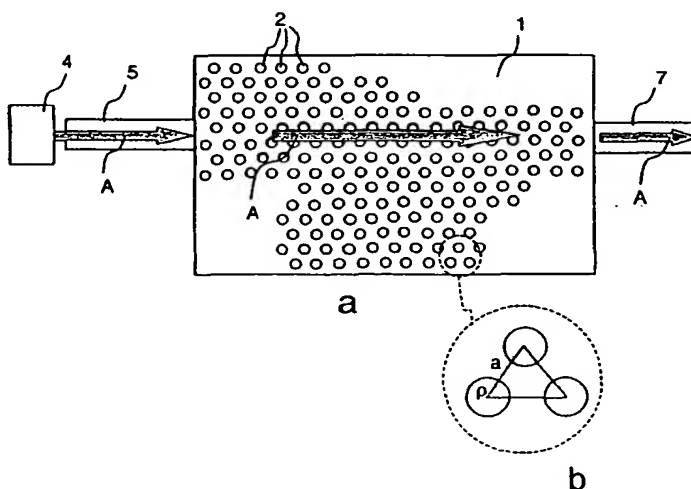
(43) International Publication Date
12 September 2003 (12.09.2003)

PCT

(10) International Publication Number
WO 03/075055 A1

- (51) International Patent Classification⁷: **G02B 6/12**
- (21) International Application Number: **PCT/EP02/02466**
- (22) International Filing Date: **6 March 2002 (06.03.2002)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*
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(54) Title: METHOD FOR GUIDING AN ELECTROMAGNETIC RADIATION, IN PARTICULAR IN AN INTEGRATED OPTICAL DEVICE



(57) **Abstract:** A method for guiding electromagnetic radiation, comprises providing a photonic crystal (1) made of a bulk material with a predetermined refractive index and having a periodic array of holes (2) with predetermined radius, and feeding to that region an electromagnetic radiation having a wavelength in the fundamental photonic band and so related to the refractive index of the bulk material, to the radius of the holes and to the period of the array that, starting from an isotropic distribution of the wave vectors within a first angular range that is twice the angular extension of the first irreducible Brillouin zone of said photonic crystal, the corresponding group velocity vectors are rearranged as concerns direction and module so that at least 50 % of them become directed within a second angular range that is about one-third of the first angular range and the width at half-maximum of the distribution of the modules of the vectors is lower than about two-third of the second angular range.

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